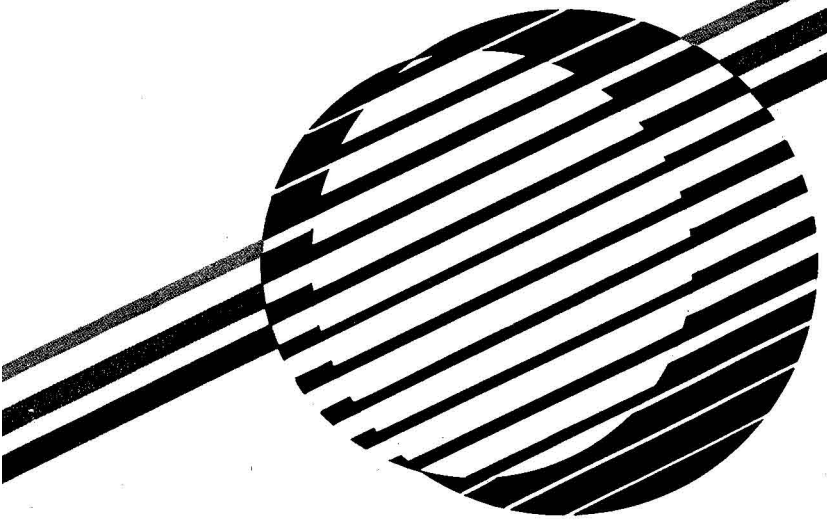
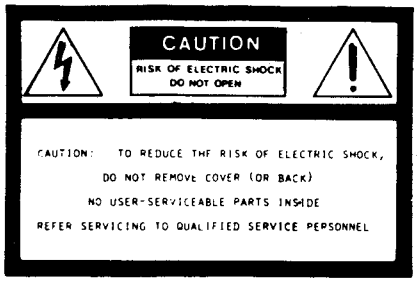
Sherwood

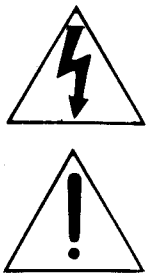
INTEGRATED
STEREO AMPLIFIER



AD 230/230B

INSTALLATION and OPERATION MANUAL


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



The lightning flash with arrowhead symbol, within and equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that many be of sufficient magnitude to constitute a risk of elevtric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

SAFETY INSTRUCTIONS

1. READ INSTRUCTIONS – All the safety and operating instructions should be read before the appliance is operated.
2. RETAIN INSTRUCTIONS – The safety and operating instructions should be retained for future reference.
3. HEED WARNINGS – All warnings on the appliance and in the operating instructions should be adhered to.
4. FOLLOW INSTRUCTIONS – All operating and use instructions should be followed.
5. WATER AND MOISTURE – The appliance should not be used near water – for example near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
6. VENTILATION – The appliance should be situated so that its location or position do not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
7. HEAT – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
8. POWER SOURCES – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
9. POWER-CORD PROTECTION – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
10. CLEANING – The appliance should be cleaned only as recommended by the manufacturer.
11. POWER LINES – An outdoor antenna should be located away from power lines.
12. NONUSE PERIODS – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
13. OBJECT AND LIQUID ENTRY – Care should be taken so that objects do no fall and liquids are not spilled into the enclosure through openings.
14. DAMAGE REQUIRING SERVICE – The appliance should be serviced by qualified service personnel when:
    A. The power-supply cord or the plug has been damaged; or
    B. Objects have fallen, or liquid has been spilled into the appliance; or
    C. The appliance has been exposed to rain; or
    D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
    E. The appliance has been dropped, or the enclosure damaged.
15. SERVICING – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to a qualified service personnel.

Unpacking and Installation

Congratulations on Your Purchase!

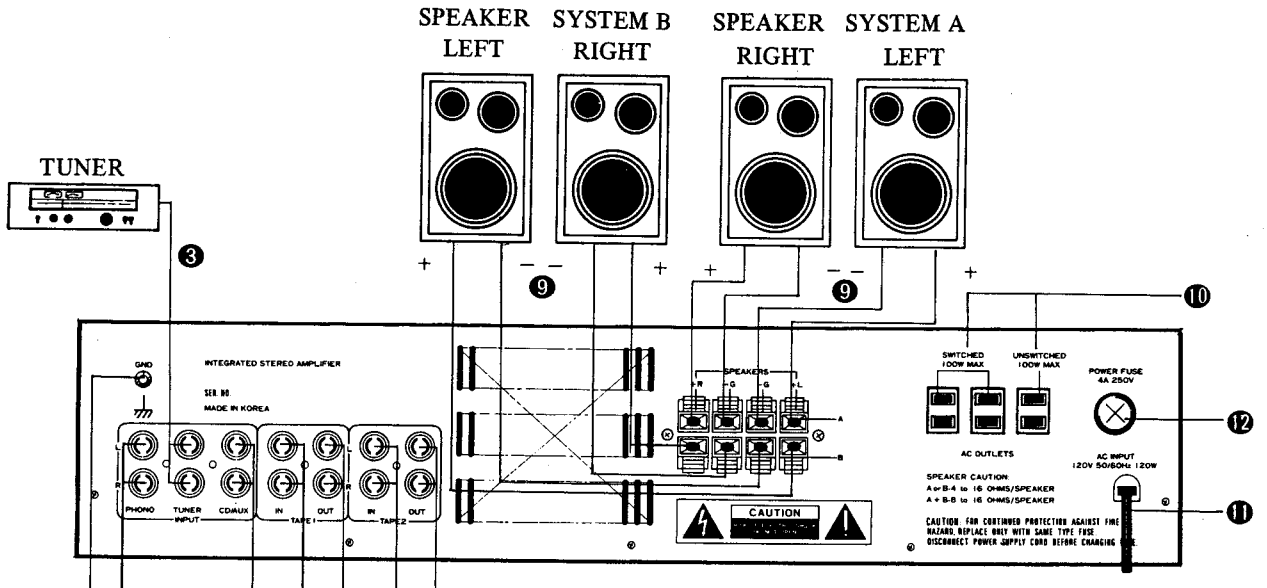
Your new high fidelity Amplifier is designed to deliver maximum enjoyment and years of trouble free service. Please take a few moments to read this manual thoroughly. It will explain the features and operation of your Amplifier and help insure a trouble free installation.

Please unpack your Amplifier carefully. We recommend that you save the carton and packing material. They will be helpful should you ever need to move your unit and may be required if you ever need to return it for service. Your Amplifier is designed to be placed in a horizontal position and it is important to allow at least two inches of space behind your unit for adequate ventilation and cabling convenience.

To avoid early damage, never place the unit near radiators, in front of heating vents, in direct sun light, or in excessively humid or dusty location.

Connect your complementary components as illustrated in the following section.

Rear Panel Connections



Canada only— CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE

GND OUTPUT LINE OUTPUT LINE INPUT

MAGNETIC CARTRIDGE TO PHONO

COMPACT DISC PLAYER

TAPE DECK 1 (OPEN-REEL, CASSETTE)

TAPE DECK 2 (OPEN-REEL, CASSETTE)

ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT

1. SYSTEM GROUND TERMINAL

To reduce hum to a minimum, this terminal is used to interconnect the chassis or ground lead of the Turntable to this Amplifier. Attach the ground lead from your Turntable to this terminal. To further minimize hum, it may be necessary to connect the GROUND terminal with a wire to the nearest water pipe which goes directly to true ground.

2. PHONO INPUT JACKS

Input for turntable with a magnetic or variable-reluctance catridge having 47,000 ohms of load impedance. Connect shielded cables from your phono arm to the LEFT and RIGHT input jacks. To avoid loss of high frequency response, it is recommended that these cables not exceed 6 feet in length.

NOTE: Do not place your turntable on a speaker enclosure. This will avoid howling caused by transmitting of the speaker vibration to the turntable.

3. TUNER INPUT JACKS

Input for connection of your matching Tuner. You will have leads from the Tuner to connect to this Amplifier. One lead will carry the LEFT channel information and should be connected to the LEFT TUNER input. The other lead should be connected to the RIGHT TUNER input.

4. CD/AUX INPUT JACKS

This extra stereo input is provided for any high level sources you may wish to connect to your Amplifier. A compact disc player (CD), an additional tape recorder, a video tape recorder (VTR), a turntable with ceramic cartridge or similar high level source can be plugged into this auxiliary input and selected by the front panel FUNCTION selector switch.

5. TAPE IN "1" JACKS

The output signal coming from your Tape Deck or Tape Recorder during playback is fed into these jacks and selected as a listening source by pressing the TAPE 1 switch on the front panel. The Amplifier enables you to connect two Tape Decks or Tape Recorders.

6. TAPE OUT "1" JACKS

Signal from these jacks are fed to the line input of a Tape Recorder for recording purposes. Select the source to be recorded with the FUNCTION selector switch on the front panel. Equalizer controls, mono and volume settings have no effect on the signal from this output for recording except the FUNCTION selector switch. To monitor this source while recording, simply select the desired speakers and adjust VOLUME, etc, to the desired listening level. If your Recorder is equipped with separate recording and playback heads, you may monitor directly from the tape being recorded by pressing the TAPE 1 switch.

7. TAPE IN "2" JACKS

Input for your second Tape Deck or Tape Recorder. Connect the line output of your second Tape Deck or Tape Recorder to these jacks. This playback signal is selected as a listening source by pressing the TAPE 2 switch to MONITOR position regardless of the position of TAPE 1 switch and FUNCTION selector switch.

8. TAPE OUT "2" JACKS

Output for your second Tape Deck or Tape Recorder. Connect the line input of your second Tape Deck or Tape Recorder to these jacks.

9. SPEAKER OUTPUT A AND B TERMINALS

This Amplifier enables you to listen to two sets of speakers individually or in various combinations as marked on the SPEAKERS switch on the front panel. Connect your main LEFT and RIGHT speakers to the corresponding A speaker terminals and use B speaker terminals for the remote pair located elsewhere in your home. For all speaker connections, make sure that the phasing is correct. L and R terminals on the Amplifier must be connected to the positive (+) terminal on the speaker and likewise G terminals to the negative (–) terminal. Speakers between 4 and 16 ohms impedance can be used if only one pair of speakers is used, but if two pairs of speakers are connected, make sure that each speaker has a minimum impedance of 8 ohms for safe Amplifier operation.

10. AC OUTLETS (2 SWITCHED + 1 UNSWITCHED)

Two "SWITCHED" outlets can be used for your matching tuner and turntable, so that you can control power of your audio system with a power switch on this Amplifier.
An "UNSWITCHED" outlet is not affected by the power switch on the front panel and can be used for a cassette deck.
NOTE: These AC outlets are provided only for USA and Canada demands.

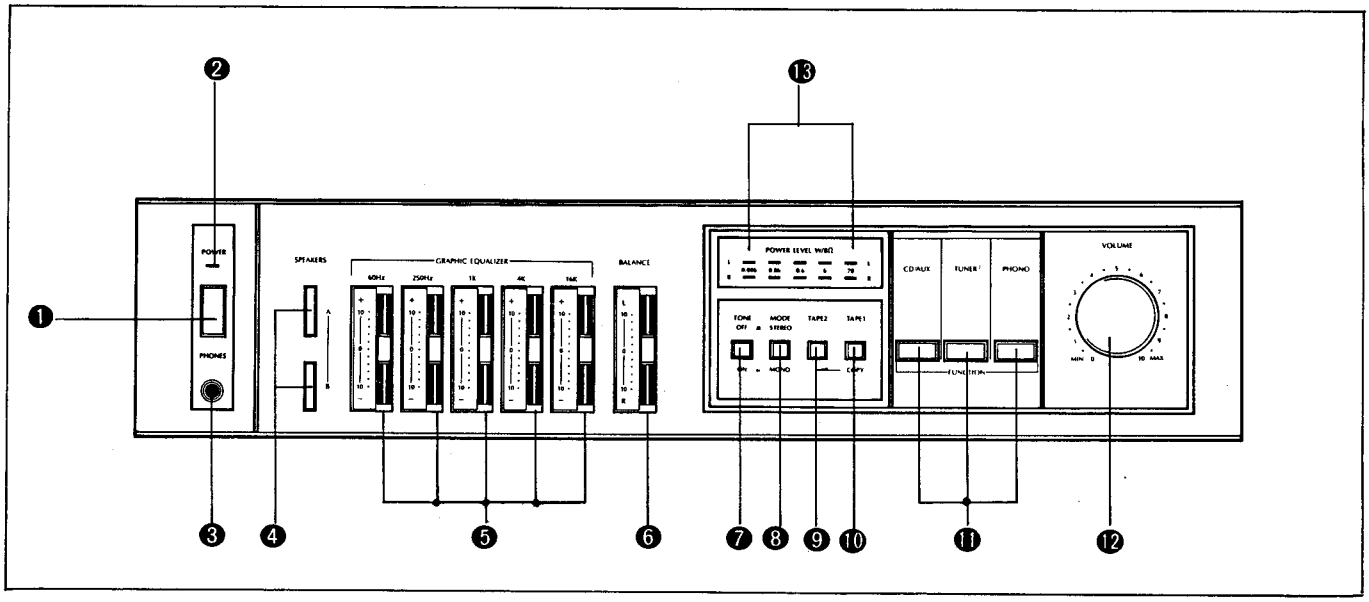
11. AC INPUT CORD

Plug this cord into AC outlet.

12. MAIN POWER FUSE

This is for your own safety and to protect your equipment. Do not replace the fuse with the larger rating.

Front Panel Controls



1. POWER SWITCH

To turn the power ON, depress this switch, then POWER INDICATOR will come on. To turn the power OFF, depress this switch again.
If no sound comes from either channel after the unit is switched ON, check whether the AC power cord is accidentally disconnected, POWER FUSE on the rear panel or SPEAKER FUSES in the inside cabinet are blown, SPEAKER switches are incorrectly positioned or TAPE switches have been accidentally depressed.

2. POWER INDICATOR

Lights when the unit is in operation.

3. HEADPHONE JACK

Stereo headphones can be plugged into this jack for private listening or monitoring. For private listening, set the SPEAKER switches to OFF. Headphone impedance should be between 8 and 2,000 ohms. Best results between 200 and 400 ohms.

4. SPEAKER SELECTOR SWITCHES

These switches allow you to select various combinations of speakers as follows:

1) To activate "Main" speakers only connected to "A" speakers terminal on the rear panel, push "A" switch in only.
2) To activate "Remote" speakers only connected to "B" speakers terminal on the rear panel, push "B" switch in only.
3) To activate both "A" and "B" speakers, push "A" and "B" switches in.
4) To activate Headphones only for private listening or monitoring, push both "A" and "B" switches off.

5. EQUALIZER CONTROLS

Each control provides continuous level variation of its indicated frequency from –10dB to +10dB. Each frequency segment becomes enhanced when its control is positioned above center (0) and attenuated when positioned below center.

Adjust the controls according to acoustic room conditions or personal preference in referring the followings;

60Hz Control : Increasing this control setting brings out the fascination of massive bass sounds such as produced by bass violins, drums and pipe organs. This sound is given an impression of solidness and imposing grandeur.

250Hz Control : Clapping causes echo reflections in certain types of rooms such as those adjacent to hallways. Reduce this control setting to eliminate these reflections.

1KHz Control : Adjusting this control during vocal performances can either render the singer's voice more distinct or cause it to become nearly inaudible. Presence can be greatly varied by controlling the midrange sound frequency.

4KHz Control : When set too high, the sound can become irritatingly brassy and metallic. Setting the control for attenuation can result in a gentle, non-fatiguing sound for easy listening.

16KHz Control : The 16KHz control can be used to extend subtle high frequencies. Sound presence becomes richer with instruments possessing narrow reverberations such as cymbals and the triangle.

6. BALANCE CONTROL

For balancing the relative sound of the left and right channel speakers. Sliding to the downward reduces the volume from the left speaker, sliding to the upward reduces the volume from the right speaker.

7. TONE SWITCH

In ON position, Equalizer controls function normally as they are set. In OFF position, pre-amplified signals are directly connected to the main amplifier without passing through equalizer control circuit, producing flat frequency response, minimized phase delay of low frequency and improved transient response. Switching TONE switch to OFF position also gives instant reference to "true" or flat response.

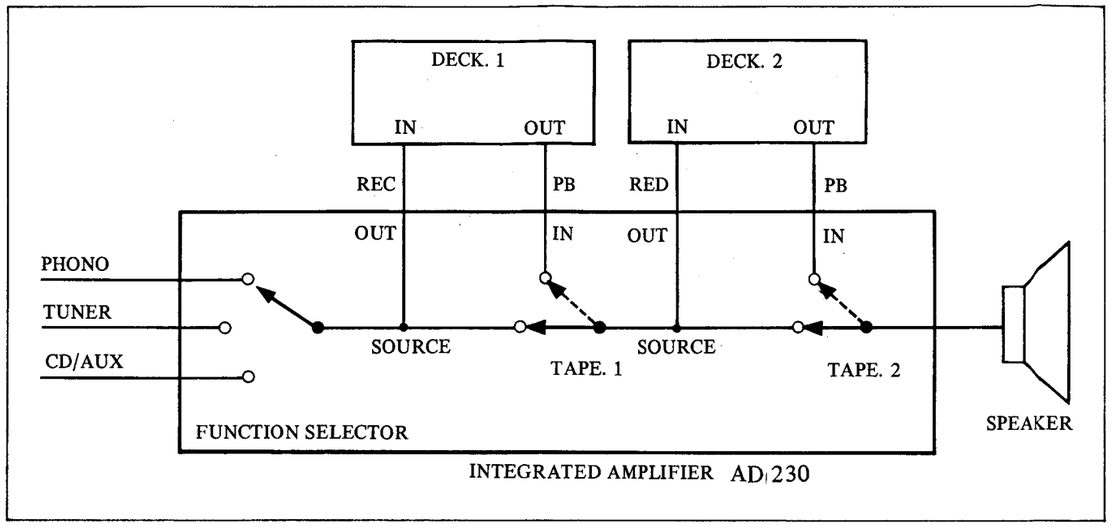
8. MODE

When you push in this switch to MONO position, every program source is in MONO combining left and right channels.

9, 10 TAPE SWITCHES "1" AND "2"

1) For listening to source selected by the FUNCTION selector switch, leave both TAPE switches 1 and 2 in SOURCE position (OUT position).

2) For playback or monitoring Tape Deck 1 as a listening source, depress TAPE 1 switch to MONITOR position (IN position) and leave TAPE 2 switch at the SOURCE position.



3) For playback or monitoring TAPE DECK 2 as a listening source, depress TAPE 2 switch to MONITOR position.
4) For copying a tape from TAPE DECK 1 to TAPE DECK 2, depress TAPE 1 switch to MONITOR position. If your second TAPE DECK is equipped with separate recording and playback heads, you may monitor directly from the tape being recorded as a copying quality check by depressing TAPE 2 SWITCH IN (source being played) and OUT (being recorded as a copy) repeatedly.
5) For recording a source selected by FUNCTION selector switch, leave TAPE 1 switch at SOURCE position and use TAPE 2 switch as a recording check for recording on both TAPE DECKS or DECK 2 only, or leave TAPE 2 switch at SOURCE position and use TAPE 1 switch as a recording quality check for recording on only TAPE DECK 1. Refer to the above block diagram for easy understanding.

11. FUNCTION SELECTOR

Switch for selecting desired program sources; PHONO, TUNER or CD/AUX.

12. VOLUME CONTROL

Rotating this control clockwise increases the volume of both channels.

13. VU METERS

These LED type volume unit meters indicate power output levels of left and right channel speakers.

Specifications

MINIMUM CONTINUOUS AVERAGE POWER OUTPUT PER CH., both channels driven with no more than 0.2% THD.	
at 4 ohms, 1 KHz	70W
at 8 ohms, 1 KHz	55W
at 8 ohms, 20-20,000 Hz	50W
INTERMODULATION DISTORTION, 60 Hz: 7 KHz = 4:1 SMPTE	
50W output into 8 ohms	0.2%
DAMPING FACTOR at 1 KHz, 8 ohms	45
INPUT SENSITIVITY for 50W output, 8 ohms at 1 KHz	
PHONO	2.5mV
AUX/TUNER	150mV
PHONO PREAMP INPUT OVERLOAD at 1 KHz, 0.1% THD	140mV
at 10 KHz, 0.1% THD	670mV
SIGNAL TO NOISE RATIO, IHF "A" wtd/unwtd	
Phono	75/67 dB
AUX	98/88 dB
FREQUENCY RESPONSE	
Phono, RIAA 30-20,000 KHz	±0.5 dB
AUX at 1W, –3 dB	5 Hz – 50 KHz
5 BAND EQUALIZER CONTROL (60Hz, 250Hz, 1KHz, 4KHz, 16KHz)	±10dB
CHANNEL SEPARATION at AUX input shorted	
100 Hz	50 dB
1 KHz	45 dB
10 KHz	40 dB
POWER CONSUMPTION	120W (MIN 25W, MAX 340W)
AMPLIFIER DIMENSIONS (W x H x D)	440(W) x 95(H) x 200(D) mm
AMPLIFIER WEIGHT	5.7kg

NOTE: Design and specifications subject to change without notice for improvements.

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